Risk/Reward Group Update

Regional Representatives Group

27 May 2005

Deliverables

- *Overview of Effort*
- *Whitepapers*
- *Survey Results*
- *Quantifiable Benefits*
- *Qualitative Benefits*
- *Costs Assessment by TSLG*

Whitepaper Outline for Each Topic

- ***Problem Statement***
- ***Baseline Description***
- ***Status Quo***
  - Known and Measurable Changes
  - Potential CCA Approach or Grid West Approach (Basic Features)
- ***Potential Alternative Approaches***
- ***Analytical Questions Affecting Results***
- ***Related Efforts***
- ***Analysis Design/Performed***
  - Generation Operational Efficiency
  - Generation Construction
  - T&D Construction
  - Transaction Costs
  - Broader Economy
  - Reliability
- ***Potential Distributional Issues***
  - Comparability
  - Cost Shifts
- ***Economic and Qualitative Benefits***

Whitepaper Topics:

1. Regulation Reserves (CCA)
2. Contingency Reserves (CCA)
3. Unused Transmission Capacity
4. New Transmission Construction
5. New Generation Resource Construction
6. Pancaked Rates (charges and administrative pancakes)
7. Maintenance Outage Coordination
8. Market Monitoring
9. Reliability
10. Independence from Market Participants
11. Service to Outlying Areas
12. Market Innovation
13. Energy Balancing (CCA)
14. Planning and Expansion
15. Congestion Management
16. Dispute Resolution
17. Market Liquidity
18. Risk Elements

Survey Summary

Survey Format Categories

1. Production Cost (Pancakes)
2. Transmission System Operations
3. System Capability and Scope
4. Existing Transmission Constraints
5. Inconsistent Treatment of Generators/Loads
6. Tariff and Business Practice Confusion
7. Planning and Expansion

Survey Information for Whitepapers –

Further testing of perceptions

Issue Topic 3: Unused Transmission Capacity

Response Summary:

- The inconsistency between Contract Path rights versus Flow-based usage has contributed greatly to the perception of over- and under-use of transmission capacity.
- Under-utilization of transmission capacity can result from the mismatches in OTC, ATC, TRM and CBM determinations at interfaces.

Issue Topic 4:

New Transmission Construction

- Significant problems have been experienced with delayed system studies. Moreover, when Transmission Providers respond to long-term requests, counter-offers do not seem to follow any particular logic; offers appear to be inconsistent application of the tariff.
- Most transmission providers don't have the resources needed to complete System Impact Studies or Facilities studies in a timely manner which results in all or a portion of a transaction to be foregone. The current expected return time for a SIS from BPA is over a year; there are numerous requests in the BPA long-term queue that are still in study but for service that should have started over 4 years ago.
- There is not enough transmission capacity to enable purchasing the lowest cost generation; loads are captive to local generation.

Issue Topics 5 and 6:

5. New Generation Resource Construction

- Pancaking alone sends price signals for locating resources close to load. This can limit resource options and diversity, and result in less efficient dispatch.

6. Pancaked Rates (charges and administrative pancakes)

- The lack of consistency among transmission providers in terms of determining ATC, OASIS, how capacity is awarded, reservation procedures, how capacity is scheduled, how service is interrupted, etc. directly impacts transactions when more than one leg of transmission is involved. Providers have different time limits for accepting and confirming transmission request, e.g., some allow a monthly firm request to be made many months out, others set a 60 day earliest window. When confirmation deadlines are short, there may not be enough time to have the connecting leg accepted.

Issue Topic 7:

Maintenance Outage Coordination

- There is a general lack of consideration of market participant concerns in outage scheduling.
- The lack of coordinated ATC determinations between adjacent control areas is a serious problem, especially between the PNW and California. In addition, some providers still don't post ATC on OASIS and others have inaccurate postings. This circumstance causes foregone transmission revenue or opportunity for using already purchased transmission capacity and higher energy costs because secondary supply sources have to be secured in order to fulfill transactional obligations.

Issue Topic 8:

Market Monitoring

- A market monitor should help reduce exposure to volatile and unfair prices and provide early identification of problems and recommended solutions.
- A west-wide market monitoring entity could help to address seams (commercial and reliability) issues between California and other regions.

Issue Topic 9:

Reliability

- As evidenced by the blackout of August 2003, coordination of multiple control area operations without sufficient visibility or authority can be an ineffective approach to reliability.
- In a region with 15 separate control areas, there is inefficiency simply due to the fact that during real-time operations each control area is largely on its own, essentially operating its own real-time dispatch with limited options, and unable to utilize more efficient options that may exist in other control areas.

Issue Topic 10:

Independence from Market Participants

- The barriers to entry into the AS market are a result of varied and different rules and technical requirements, e.g., minimum generator size limits for providing reserves, as well as inconsistent business practices and business systems which preclude broad market participation.
- In regions without RTO structures, non-utility generators subsidize host control areas by providing VAR support, spin, non-spin and frequency response without compensation or on a non-comparable basis.

Issue Topic 12:

Market Innovation

- Need for service characteristics that support, rather than discourage, intermittent resources.
- There needs to be an effective way to clear the queue; a regional queue could be very helpful.
- A regional redispatch market could be used to effect the necessary transmission loading relief; this could be done by the Reliability Coordinator, if it had the proper tools, or by another entity with the authority to order redispatch.
- Cost estimates for OASIS inefficiencies, transmission line derates, missing RODS accounts and inconsistent tag approval process costs this company in the mid range of $500,000/year.

Issue Topic 14:

Planning and Expansion

- Because of the lack of a congestion management system, congestion cost information is not available to inform planning and expansion decisions. New users are expected to fund expensive transmission with little information.
- The lack of a formal process for resolving planning issues results in project delays. Utilities often withhold investments in order to gain leverage in commercial issues.
- If requests for new transmission service are substantive and involve many other entities in the western grid, planning coordination is fundamental in determining the least cost transmission solution.
- Planning efforts are hindered by multiple request queues among transmission providers and unclear guidelines on how to address impacts on third parties. A regional queue could reduce confusion by establishing priorities on positions in the queue.
- Coordinated planning could go a long way in terms of expediting regional planning efforts and could result in a better optimized transmission system.

Issue Topic 15:

Congestion Management

- TBL currently has 18 paths posted—the number has tripled over the last 8 years.
- Lack of knowledge about how schedules, currently determined by contract path, affect constraints. The Interties are cut in order to relieve Network constraints.
- The Northern Intertie is used to manage congestion on the BPA Network.
- What is most unfortunate is that congestion and its associated costs are not formally tracked. Preschedule curtailment notices result in work-around processes and real-time curtailment notices cause market participants to scramble to ensure that load is not interrupted. "
  "The frequency with which we have to deal with curtailments has grown to a level that concerns us."
- Some respondents have experienced curtailments for congestion yet have learned later that the curtailment did not address the flow problem.
- The TTC on the Pacific Intertie is not consistently determined and coordinated; the CAISO implements curtailments in order to be in line with its operating limits and then, BPA implements cuts, however, the cuts involve non-congruent schedules.

Issue Topic 16:

Dispute Resolution

- There are serious concerns regarding transmission providers writing business practices that are not based on the intent of the tariff but are used to accommodate system flaws.
- Disputes persist as a result of shared paths for which a portion is scheduled up to system capability, when the entire path cannot accept such levels in total.
- This region has disputed all of the following:
  1. queue clearing;
  2. shaped annual firm transmission;
  3. extension of commencement of service;
  4. redispatch (can/cannot be used to create transmission capacity);
  5. ancillary services requirements (e.g., generation-supplied reactive);
  6. losses requirements;
  7. generation imbalance penalty (for wind); and,
  8. E-tag before schedule policy.

Consolidated Control Area

Quantifiable Benefits

- ***Evaluate joint operations and operating to physical constraints***
- ***Types of Constraints***
  - Physical constraints
  - Contract Path (reservation and scheduling)
  - Pancakes
- ***CCA Balancing (remove contract path constraints)***
- ***Grid West Footprint (remove contract path constraints and pancakes)***
- ***Using PowerWorld – Optimized Power Flow model***
  - Validation of work is underway
  - After validation, results will be published

Cost Estimate

TSLG/The Structure Group Module 5

- Evaluate Cost Drivers
- Benchmark with the Cal ISO
- Bottom-Up Analysis for Grid West Basic Features